

The Socio-Ecological Consequences of Future Wildfire in the West



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History Lessons?

- **Current US wildfire management system developed in a particular socio-ecological context**
- **Primarily from federal land management agencies**
 - Expert driven, scientific approach = devalues and distrust of local
 - Clementsian succession ecological view - fire a universal negative disturbance as it disrupted succession processes
- **Developed in era when:**
 - Had tons of people (CCC) to suppress fires
 - Environmental conditions were relatively conducive to full suppression
- **WWII: Added war metaphor and excess equipment adding to focus on technological response**
- **Recent decades - Increased loss of structures led to more involvement of emergency response organizations => increased emphasis on protection of life and property**

Leads to A Fire Management System Characterized by:

- Top down, Expert driven solutions, discounting of Local knowledge/input
- A land management and emergency response stance focused on:
 - ‘Protection’ of life and property
 - Fuels Treatments
 - Public as a “Problem” to fix
- Focus on technical solutions and tools over human behavior change

Current Lessons

- Ecological Narratives have shifted.....
- Social Narratives (and solutions) stuck on 20th century conditions.
- Problem? Overall social science research findings do not support most of the Narratives about public response to fire management

The Public Won't Let Us Burn

“Some people think we have to train the general public to the idea of prescribed burning. They maintain that the general public has listened to Smokey the Bear so long that it will be difficult for them to see any beneficial effects of using fire as a tool. However, I have found that the general public grasps the idea very quickly and often asks, “Why didn’t you start it long ago?” “

THE PUBLIC WON'T LET US BURN

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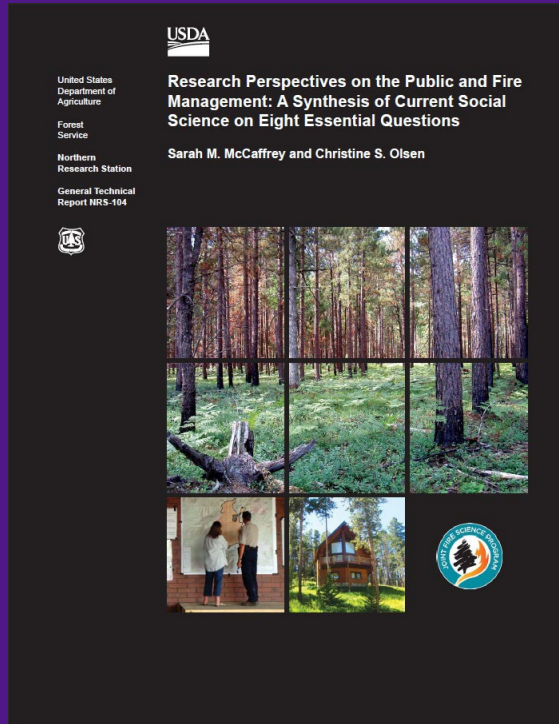
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Fire Ecology in Ponderosa Pine-grassland

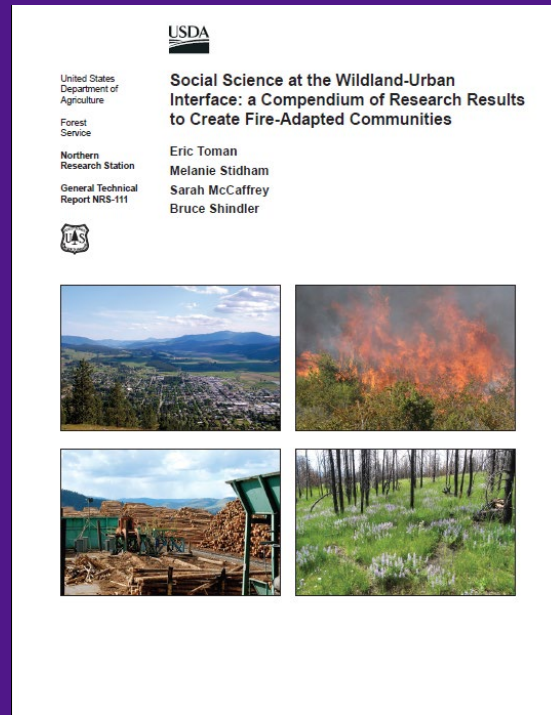
HAROLD H. BISWELL

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Smokey Bear False Narrative?



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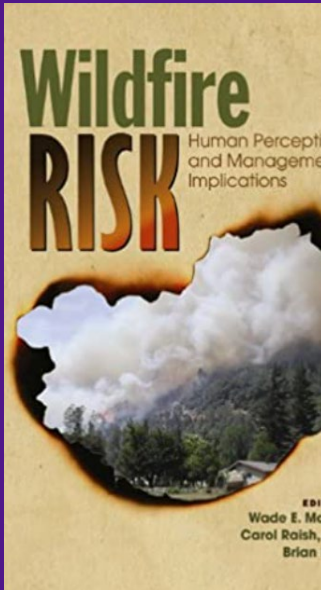
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- Consistent evidence public has a good understanding of fire ecology, including beneficial role of fire.
- Prescribed Fire is acceptable at some level to 80% of individuals living in fire prone areas
- **Ecological benefits important influence in acceptance**

Risk perception is not a simple utilitarian calculation based just on probability and outcomes

Vast majority of people know they live in high fire risk areas, but other factors are also key in shaping action:

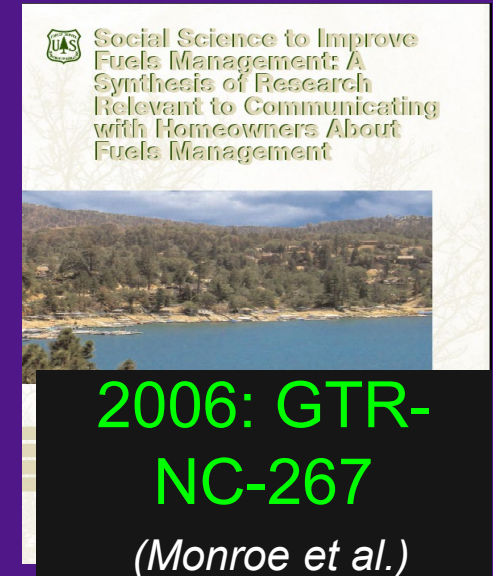
- **Risk Attitudes (Tolerance/aversion)** - those who are not comfortable with the wildfire risk chose not to live there.
- **Trade-off with benefits** - individuals who have decided that living in or near wildland areas is desirable see the trade-off between benefits and risk exposure as acceptable.
- **Efficacy:**
 - Response Efficacy - Does the action make enough of a difference to act?
 - Self Efficacy – Do I have the ability to act? (money, time, physical ability, conflicting/complimentary needs, etc.)



Other key takeaways to date

–The problem is not an Information Deficit, disproven for decades

“.... simply providing information, although necessary, is rarely sufficient to change behavior. Information campaigns are often ineffective because they ignore the motives behind behavior.”



- Surveys of homeowners in fire prone areas consistently find vast majority undertake some level of hazard mitigation
- Local Context and Place Attachment** important to take into account

3 key dynamics influence acceptance and taking protective measures: Knowledge, Trust, and Interactive Communication



Thinking about Fuel Management: The Potential of Integrative Complexity Theory to Inform Design of Communication about Fuel Management Used To Reduce Wildfire Risk

Melinda R. Mylek & Jacki Schirmer



Curr Forestry Rep (2015) 1:81–90
DOI 10.1007/s40725-015-0015-7

FIRE SCIENCE AND MANAGEMENT (M ALEXANDER, SECTION EDITOR)

Community Wildfire Preparedness: a Global State-of-the-Knowledge Summary of Social Science Research

Sarah McCaffrey¹



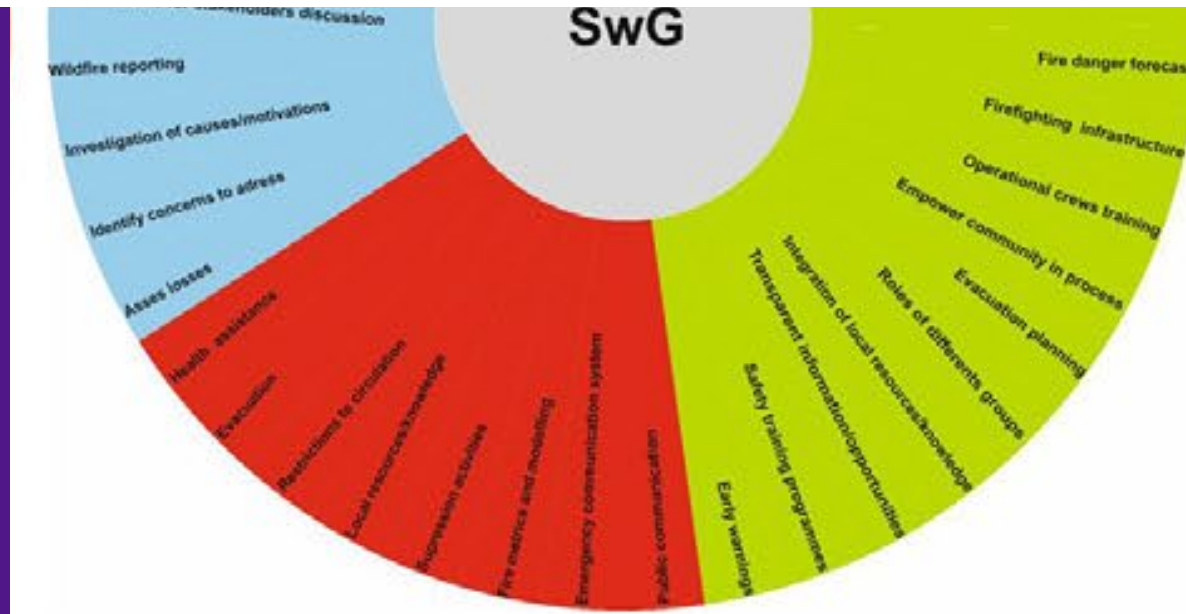
Future Considerations

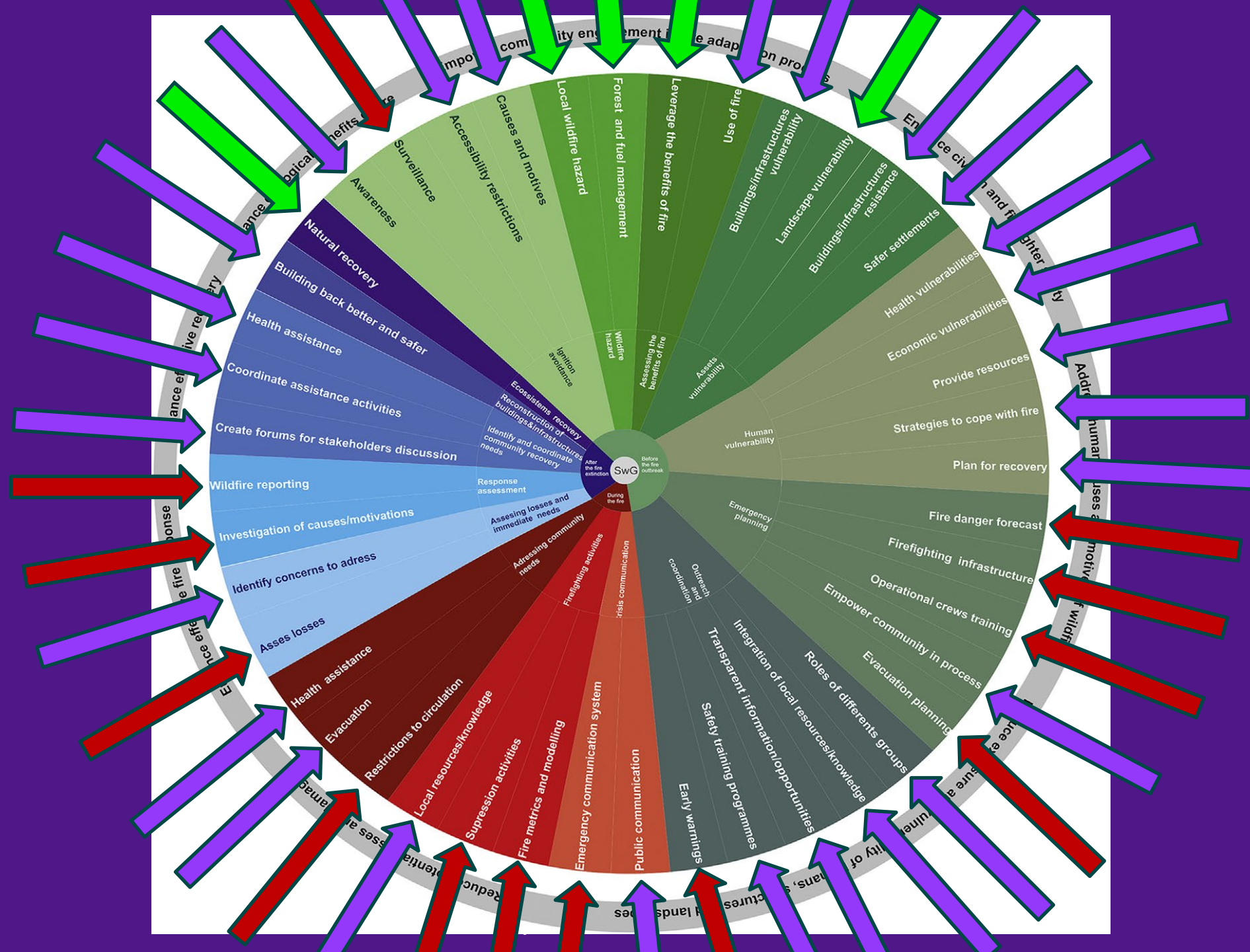
- **The "Socio" is as, if not more, complicated as the "Ecological" and similar levels of attention/data are needed**
- **Need intentional rethinking of fire management to more overtly take into account the different social and environmental context of the 21st century**
 - Tweaking current approach unlikely to be effective in long-term
 - New, improved tools are just more tweaks

What can we do differently about the extreme wildfire problem: An overview

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*Fantina Tedim^{1,2}, Sarah McCaffrey³, Vittorio Leone⁴,
Giuseppe Mariano Delogu⁵, Marc Castelnou^{6,7}, Tara K. McGee⁸, José Aranha⁹*

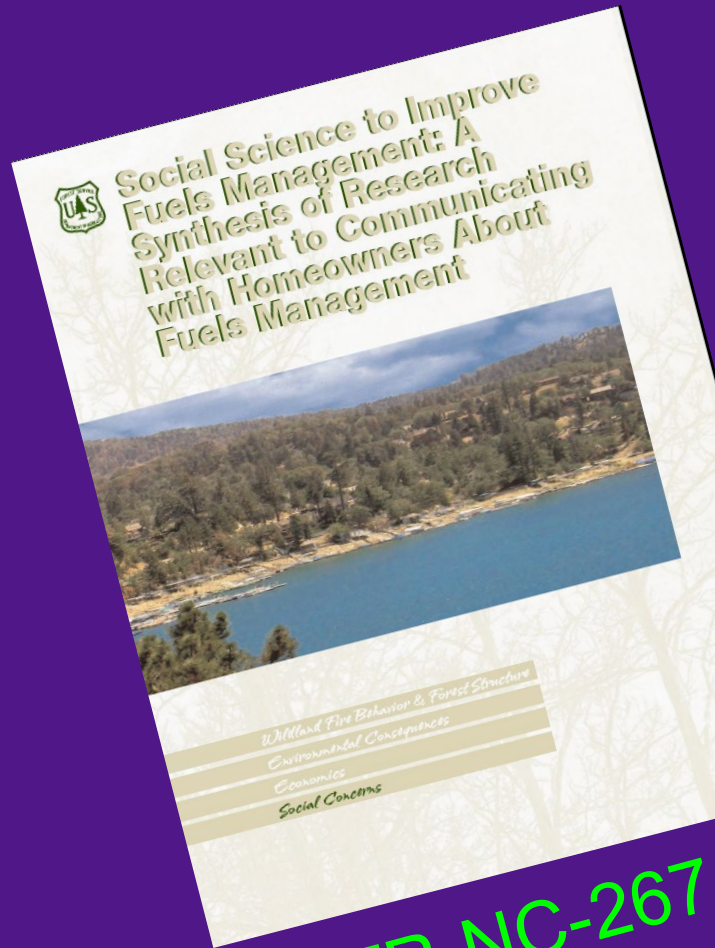




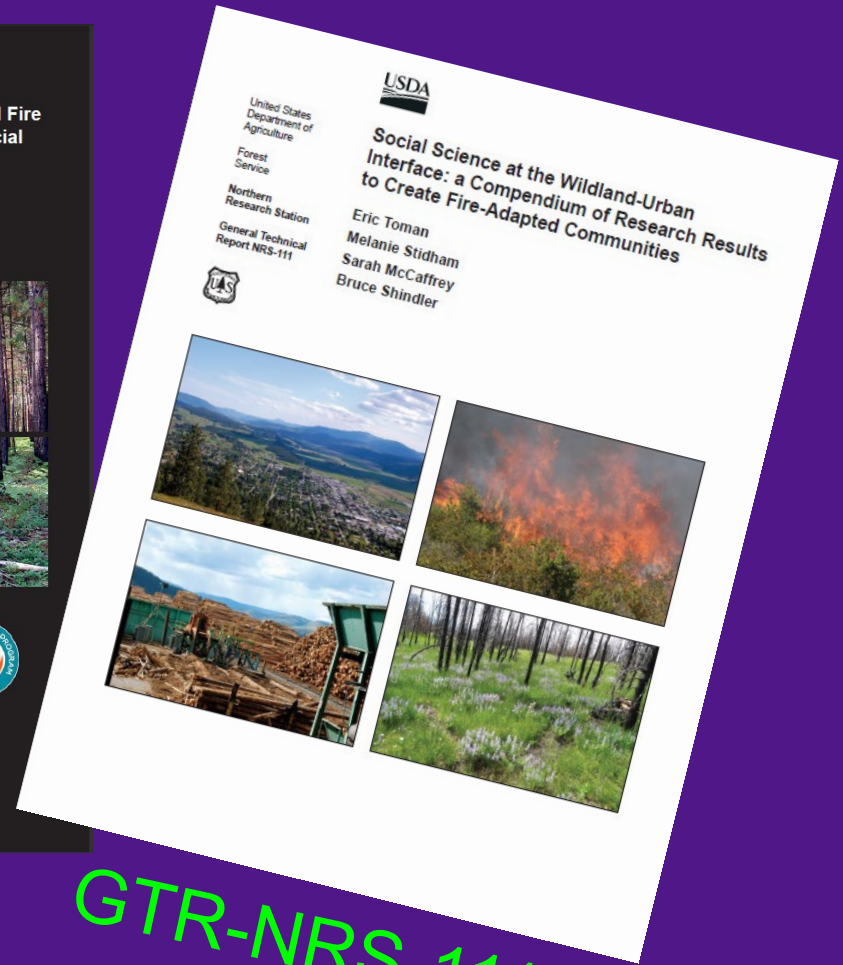
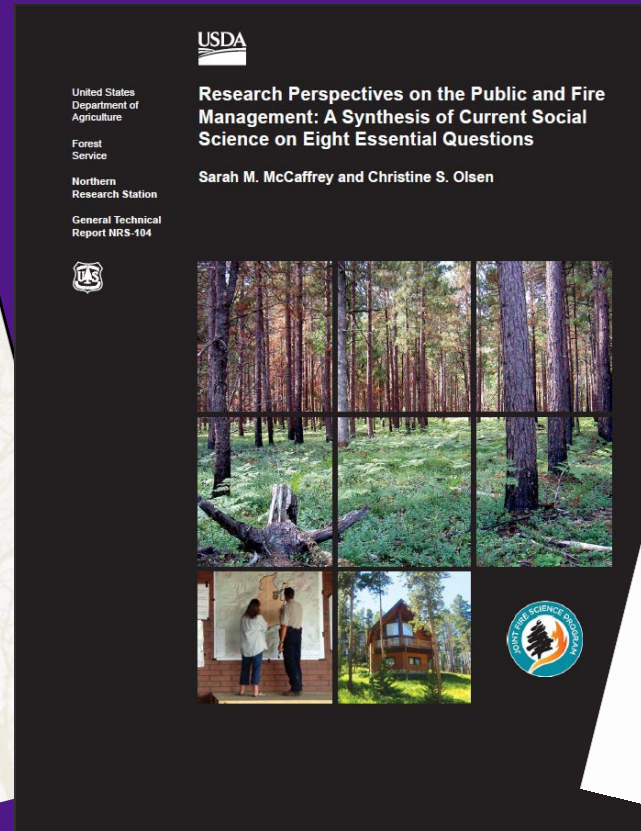
Some questions to consider around the social perspective

- What evidence is this statement based on?
 - What do we already know well enough?
 - What beliefs need more evidence?
- What are the interconnections with other scales (spatial, temporal)?
- Are the linkages with non-fire concerns taken into account?
- Other items ?

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In Summary: the 3 E's

Engage	Explain	Empower
• Interactive • Identify Values and Barriers	• Benefits • Response Efficacy <i>(Effectiveness of an Action)</i>	• Self-Efficacy <i>(Ability to undertake Action – Resources, Capacity)</i>
Trust-Building		